PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Yang, D., *et al.*

Serial No.: 10/672,142

Filed: September 26, 2003

For: ETHYLENEDICYSTEINE (EC)-DRUG CONJUGATES, COMPOSITIONS AND METHODS FOR TISSUE SPECIFIC DISEASE IMAGING

Group Art Unit: 1618

Examiner: Dameron L. Jones

Atty. Dkt. No.: UTSC:664USC2

CERTIFICATE OF E-FILING

June 21, 2006
Date

Monica A. De La Paz

I. AMENDMENT; II. RESPONSE TO OFFICE ACTION DATED FEBRUARY 21, 2006; AND III. REQUEST FOR EXTENSION OF TIME

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Commissioner:

This paper is submitted in response to the Office Action dated February 21, 2006 for which the three-month date for response was May 21, 2006.

A request for a one-month extension of time to respond is included herewith along with the required fee. This one-month extension will bring the due date to June 21, 2006, which is within the six-month statutory period.

Reconsideration of the application is respectfully requested.

I. AMENDMENT

Amendment to the Claims:

The following listing of the claims replaces all previous listings or version of the claims:

Listing of the Claims

1.-54. (Canceled)

55. (Currently Amended) The method of claim [[54]] 84, wherein the target cells are in the breast, ovary, prostate, endometrium, lung, brain, or liver.

56. (Currently Amended) The method of claim [[54]] 84, wherein the target cells comprise a tumor.

57. (Previously Presented) The method of claim 56, wherein the tumor is breast cancer, lung cancer, prostate cancer, ovarian cancer, brain cancer, liver cancer, cervical cancer, colon cancer, renal cancer, skin cancer, head & neck cancer, bone cancer, esophageal cancer, bladder cancer, uterine cancer, lymphatic cancer, stomach cancer, pancreatic cancer, testicular cancer, lymphoma, or multiple myeloma.

58. (Currently Amended) The method of claim [[54]] 84, wherein the target cells comprise an inflammatory lesion in the subject.

59. (Previously Presented) The method of claim 58, wherein the inflammatory lesion is a lesion that is secondary to infection.

60. (Currently Amended) The method of claim [[54]] 84, wherein the targeting ligand is a tissue-specific ligand.

61. (Currently Amended) The method of claim [[54]] 84, wherein the radionuclide-labeled bis-aminoethanethiol (BAT) dicarboxylic acid-targeting ligand conjugate is a radionuclide-labeled ethylenedicysteine (EC)- targeting ligand conjugate.

62. (Previously Presented) The method of claim 61, wherein the targeting ligand conjugate comprises the targeting ligand conjugated to one or both arms of ethylenedicysteine.

63. (Currently Amended) The method of claim [[54]] 84, wherein the targeting ligand conjugate comprises more than one targeting ligand.

64. (Currently Amended) The method of claim [[54]] 84, wherein radioactive signal from the administered targeting ligand conjugate localizes in the target cells.

65. (Currently Amended) The method of claim [[54]] 84, wherein the radionuclide is ^{99m}Tc, ^{188}Re, ^{186}Re, ^{183}Sm, ^{166}Ho, ^{90}Y, ^{89}Sr, ^{67}Ga, ^{68}Ga, ^{111}In, ^{153}Gd, ^{59}Fe, ^{225}Ac, ^{212}Bi, ^{211}At, ^{62}Cu, or ^{64}Cu.

66. (Previously Presented) The method of claim 65, wherein the radionuclide is ^{99m}Tc.

67. (Currently Amended) The method of claim [[54]] 84, wherein the targeting ligand is an anticancer agent, DNA topoisomerase inhibitor, antimetabolite, tumor marker, folate receptor targeting ligand, tumor apoptotic cell targeting ligand, tumor hypoxia targeting ligand, DNA intercalator, receptor marker, peptide, nucleotide, organ specific ligand, antibiotic, antifungal, glutamate pentapeptide, or an agent that mimics glucose.

68. (Previously Presented) The method of claim 67, wherein the targeting ligand is an anticancer agent.

69. (Previously Presented) The method of claim 68, wherein the anticancer agent is methotrexate, doxorubicin, tamoxifen, paclitaxel, topotecan, LHRH, mitomycin C, etoposide

tomudex, podophyllotoxin, mitoxantrone, camptothecin, colchicine, endostatin, fludarabin, gemcitabine, or tomudex.

70. (Previously Presented) The method of claim 67, wherein the targeting ligand is a tumor marker.

71. (Previously Presented) The method of claim 70, wherein the tumor marker is PSA, ER, PR, CA-125, CA-199, CEA AFP, interferons, BRCA1, HER-2/neu, cytoxan, p53, or endostatin.

72. (Previously Presented) The method of claim 67, wherein the targeting ligand is a folate receptor targeting ligand.

73. (Previously Presented) The method of claim 72, wherein the folate receptor targeting ligand is folate, methotrexate, or tomudex.

74. (Previously Presented) The method of claim 67, wherein the targeting ligand is a tumor apoptotic cell targeting ligand or a tumor hypoxia targeting ligand.

75. (Previously Presented) The method of claim 74, wherein the targeting ligand is annexin V, colchicine, nitroimidazole, mitomycin, or metronidazole.

76. (Previously Presented) The method of claim 67, wherein the targeting ligand is glutamate pentapeptide.

77. (Previously Presented) The method of claim 67, wherein the targeting ligand is an agent that mimics glucose.

78. (Previously Presented) The method of claim 77, wherein the agent that mimics glucose is glucosamine, deoxyglucose, neomycin, kanamycin, gentamicin, paromycin, amikacin, tobramycin, netilmicin, ribostamycin, sisomicin, micromicin, lividomycin, dibekacin, isepamicin, astromicin, or an aminoglycoside.

79. (Previously Presented) The method of claim 78, wherein the agent that mimics glucose is glucosamine or deoxyglucose.

80. (Currently Amended) The method of claim [[54]] 84, wherein said radionuclide-labeled bis-aminoethanethiol (BAT) dicarboxylic acid-targeting ligand conjugate comprises a linker conjugating the BAT dicarboxylic acid to the targeting ligand.

81. (Previously Presented) The method of claim 80, wherein the linker comprises a water soluble peptide, glutamic acid, aspartic acid, bromo ethylacetate, ethylene diamine, or lysine.

82. (Previously Presented) The method of claim 81, wherein said linker is glutamate peptide or poly-glutamic acid.

83. (Previously Presented) The method of claim 81, wherein the targeting ligand is estradiol, topotecan, paclitaxel, raloxifen, etoposide, doxorubricin, mitomycin C, endostatin, annexin V, LHRH, octreotide, VIP, methotrexate, or folic acid.

84. (Currently Amended) ~~The~~ A method of ~~claim 54~~ delivering a radionuclide into target cells of a subject, comprising:

a) obtaining a composition comprising a ~~wherein the~~ radionuclide-labeled bis-aminoethanethiol (BAT) dicarboxylic acid-targeting ligand conjugate, wherein the conjugate is capable of being taken up into the target cells; and

b) administering the conjugate to the subject, wherein the subject is a human ~~is further defined as a radionuclide-labeled bis-aminoethanethiol (BAT) dicarboxylic acid-targeting ligand conjugate~~.